CLAIMS

What is claimed is:

1. An isolator mechanism for use with a housing having a bearing with lubricant in the housing and a shaft protruding through the housing, the isolator comprising:

a) a stator affixed to the housing and surrounding the shaft;

b) said stator having a radial groove formed therein with the walls of said groove extending between said housing and said shaft;

c) the exterior surface of a first wall of said groove facing the interior of the housing;

d) an axial hole in said first wall at the lower extremity of said first wall from said shaft connecting said groove to said housing.

2. An isolator accordance with Claim 1, wherein said radial groove is more ~~that~~ then one-half the ~~radially~~ radial dimension of said stator.

3. An isolator accordance with Claim 1, wherein said hole in said first wall of stator includes a axially sloping surface connecting said radial groove to said housing.

4. An isolator accordance with Claim 3, wherein said hole and said sloping surface are elongated.

5. An isolator accordance with Claim 3, wherein said hole and said sloping surface are milled in said first wall.

6. An isolator accordance with Claim 1, wherein the inside diameter of said stator is proportional to the diameter of said shaft.

7. An isolator accordance with Claim 6, wherein the proportion of said stator to said shaft is 0.005 inches per inch of shaft diameter.

8. An isolator accordance with Claim 4, wherein said hole and said sloping surface are elongated circumferentially.

9. An isolator mechanism for use with a housing having a bearing with lubricant in a housing and a shaft protruding through the housing, the isolator comprising:

a) a stator affixed to the housing and surrounding the shaft;

b) said stator having a plurality of radial grooves formed therein with the walls of said grooves extending between said housing and said shaft;

c) the exterior surface of ~~a~~ the first wall of said grooves facing the interior of the housing;

d) an axial hole ~~in said~~ in said walls at the extremity of said walls from said shaft connecting said grooves to said cavity.

10. An isolator accordance with Claim 9, wherein said radial grooves are more than one-half the radial dimension of said stator.

11. An isolator accordance with Claim 10, wherein said hole in said walls of said stator include a sloping surface connecting said radial grooves to said housing.

12. An isolator accordance with Claim 11, wherein said hole and said sloping surface are elongated.

13. An isolator accordance with Claim 12, wherein said hole and said sloping surface are milled in said walls of said stator.

14. An isolator accordance with Claim 9, wherein the inside diameter of said stator is proportional to the shaft diameter.

15. An isolator accordance with Claim 14, wherein the proportion between said stator and said shaft is 0.005 inches per inch of shaft diameter.

16. An isolator accordance with Claim 12, wherein said hole in said stator is elongated circumferentially.

17. An isolator mechanism for use with a housing having a bearing with lubricant in the housing and a shaft protruding through the housing, to isolator comprising:

a) a stator affixed to the housing and surrounding the shaft;

b) said stator having a radial groove formed therein with the walls of said groove extending between said housing and said shaft;

c) the exterior surface of a first wall of said ~~cavity~~ groove facing the interior of the housing;

d) a plurality of axial holes in said first wall at the extremity of said first wall from said shaft connecting said groove to said housing.

18. An isolator mechanism for use with the housing having a bearing with lubricant in the housing and a shaft protruding ~~though~~ through the housing, the isolator comprising:

a) a stator affixed to the housing and surrounding the shaft;

b) said stator having a radial groove formed therein with the walls of said grooves extending between said housing and said shaft;

c) the exterior surface of the first wall of said groove facing the interior of the housing;

d) an axial hole in said first wall at the extremity of said first wall from said shaft connecting said groove to said ~~cavity~~ housing;

e) a rotor affixed to said shaft and rotating therewith interfacing with said stator.

19. An isolator accordance with Claim 18, wherein said hole in said first wall of said stator includes a sloping surface connecting said radial groove to said housing.

20. An isolator in accordance with Claim 18, wherein said radial groove is more than one-half the radial dimension of said stator.

21. An isolator in accordance with Claim 19, wherein said hole and said sloping surface are elongated.

22. An isolator in accordance with Claim 19, wherein said hole and said sloping surface are milled in said first wall.

23. An isolator in accordance with Claim 18, wherein the inside diameter of said stator is proportional to the shaft diameter.

24. An isolator in accordance with Claim 18, wherein the interface between the rotor and stator includes an ejection port for ejection of contaminants from the exterior without reaching the housing.

25. An isolator in accordance with Claim 24, wherein the contaminants are expelled by the pumping action between the rotor and the stator.

26. An isolator in accordance with Claim 18, wherein said rotor surrounds said stator and prohibits the entry or exit and subsequent contaminants.